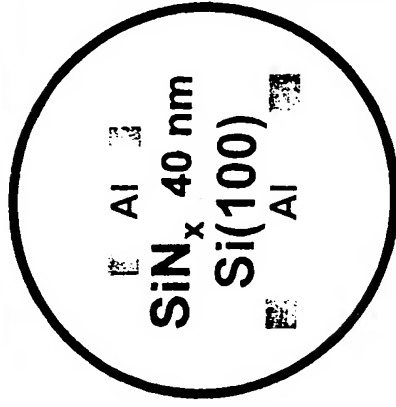
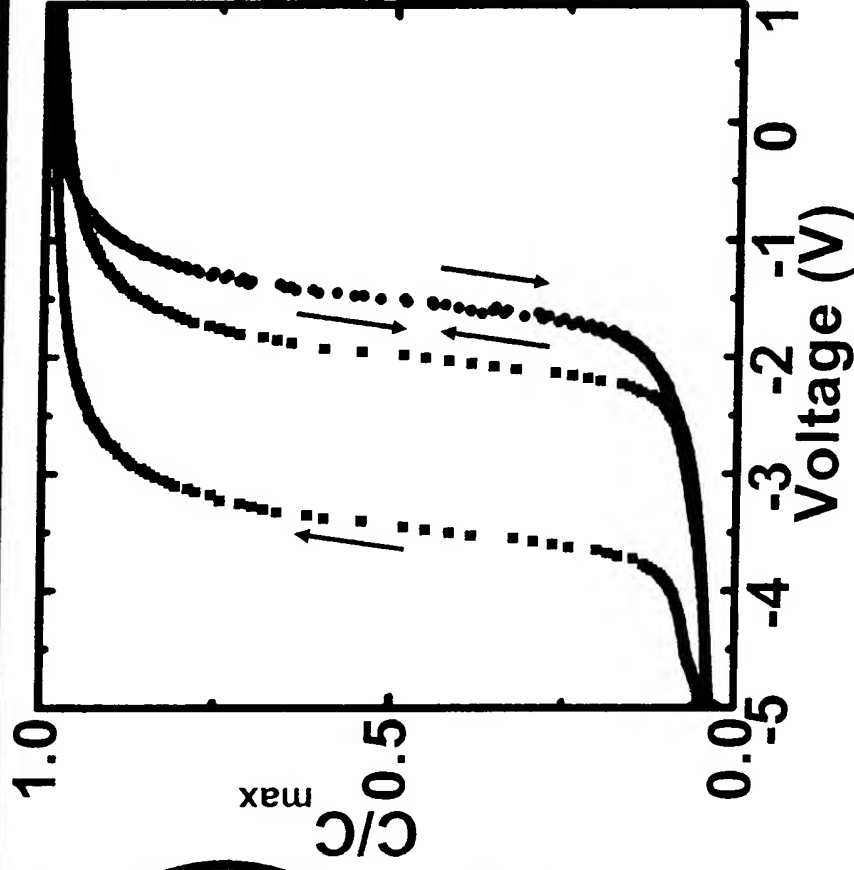


Reference Drawing 1

# C-V analysis

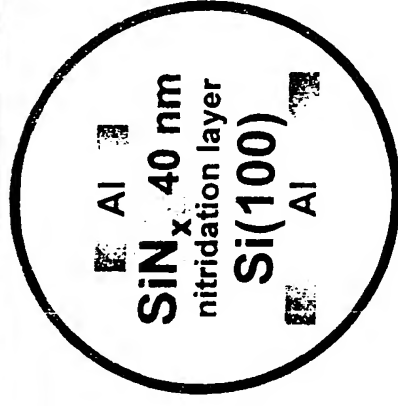
Ts : 250 °C Tcat : 1350 °C Nitridation time: 60 s

Nitridation of Si surface before deposition of SiNx is effective to reduce Vt shift and also width of hysteresis loop.



$V_{th}$  : -4.0 V  
 $H_{loop}$  : 1.4 V

without  
nitridation



$V_{th}$  : -1.8 V  
 $H_{loop}$  : 0.05 V

with  
nitridation

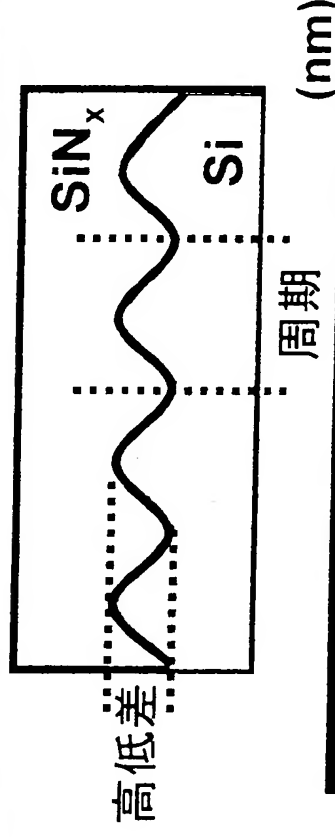
Reference Drawing 2

# High resolution TEM image

without nitridation



with nitridation (1350 °C)



	高低差	周期
窒化处理無	1.5 - 2.1	14
窒化处理有 (1650 °C)	0.5 - 1.1	8
窒化处理有 (1350 °C)	0.5	7

By introducing surface nitrided layer, Si/SiNx interface becomes smooth.

Reference Drawing 3